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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,419	11/05/2003	John N. Hryn	0003/01398	8338

27197 7590 10/01/2007

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EXAMINER	
SMITH, NICHOLAS A	

ART UNIT	PAPER NUMBER
1753	

MAIL DATE	DELIVERY MODE
10/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/702,419	HRYN ET AL.	
	Examiner	Art Unit	
	Nicholas A. Smith	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6 and 21-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 6 and 21-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claim(s) 1-3, 6 and 21-27 is/are pending.

Claim Rejections - 35 USC § 112

2. The rejection under 35 USC 112 has been withdrawn in view of the claim amendments.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 6 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (US 6,436,272).

5. Brown '272 is applied to the claims for the same reasons as stated in paragraph(s) 6,7 and 9 of the previous office action.

6. In regards claim 21 limitation that has been removed, Brown '272 is applied to the claims as above.

7. Claims 1-2 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (US 6,379,512).

8. Brown '512 is applied to the claims for the same reasons as stated in paragraph(s) 11-13 of the previous office action.

9. In regards claim 21 limitation that has been removed, Brown '512 is applied to the claims as above.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 3, 22-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown '272 as applied to claim 1 and 21 above, and further in view of (no secondary reference).

12. Brown '272 is applied to the claims for the same reasons as stated in paragraph(s) 17-18 of the previous office action.

13. In regards to claim 3 amendment "dissolved," Brown '272 discloses the electrolyte as molten (col. 9, line 5 and claim 1, line 4); a molten electrolyte would be in a liquid state, and furthermore, Brown '272 discloses that alumina is dissolved (claim 1, lines 1-4). Examiner notes that Brown '272 discloses a "slurry-electrolyte" in example 2; an example pertaining to a NaF electrolyte mixture; however, in example 1 ($KF\text{-}AlF_3$ electrolyte system), the description of the electrolyte being a slurry is notably absent. Furthermore, Examiner notes that the state of being "dissolved" is a function of solubility; it is well known that solubility is a function of solution/mixture temperature and the components of the solution/mixture. Since Brown '272 discloses the same mixture composition and temperature, the solubility of alumina would be inherently the same.

14. In regards to claim 25-26, Brown '272 is applied to the claims for the same reasons as stated in paragraphs 6-7 and 17 in the previous office action.

15. In regards to claim(s) 27, Brown '272 is applied to the claims for the same reasons as stated above in paragraph 13.

16. Claims 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown '512 and further in view of (no secondary reference).

17. In regards to claim(s) 24, Brown '512 is applied to the claims for the same reasons as stated in paragraph(s) 20 of the previous office action.

18. In regards to claim(s) 24 amendment "a liquid electrolyte comprising," Brown '512 discloses a molten electrolyte (abstract). Furthermore, Examiner notes that the state of being "dissolved" is a function of solubility; it is well known that solubility is a function of solution/mixture temperature and the components of the solution/mixture. Since Brown '512 discloses the same mixture composition and temperature (col. 11, lines 21-24; col. 17, lines 1-21), the solubility of alumina would be inherently the same.

Response to Arguments

19. Applicant's arguments filed 5 July 2007 have been fully considered but they are not persuasive. In regards to Applicant's argument towards sodium content in electrolyte, Brown '272 and Brown '512 both disclose embodiments with $KF\text{-}AlF_3$ electrolyte systems and therefore meet the instant claims. In regards to Applicant's argument towards Brown '272 and Brown '512 rely on undissolved alumina and therefore teach away from the claims, please see paragraph 13 above.

Response to Amendment

20. The affidavit under 37 CFR 1.132 filed 5 July 2007 is insufficient to overcome the rejection of claims 1-3, 6 and 21-27 based upon 35 USC 102(b) or 35 USC 103(a) as set forth in this Office action because: the affidavit does not demonstrate technically how the instant claims are different from either Brown '272 or Brown '512. Brown '272 discloses the electrolyte as molten (col. 9, line 5 and claim 1, line 4); a molten electrolyte would be in a liquid state, and furthermore, Brown '272 discloses that alumina is dissolved (claim 1, lines 1-4). Examiner notes that Brown '272 discloses a "slurry-electrolyte" in example 2; an example pertaining to a NaF electrolyte mixture; however, in example 1 ($KF\text{-}AlF_3$ electrolyte system), the description of the electrolyte being a slurry is notably absent. Furthermore, Examiner notes that the state of being "dissolved" is a function of solubility; it is well known that solubility is a function of solution/mixture temperature and the components of the solution/mixture. Since Brown '272 discloses the same mixture composition and temperature, the solubility of alumina would be inherently the same.

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy Tsang-Foster can be reached on (571)-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

25. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NAS

Supervisory Patent Examiner